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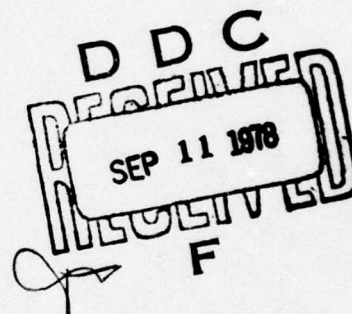
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THE RELATIONSHIP BETWEEN ORGANIZATIONAL FEEDBACK MECHANISMS,

EMPLOYEE USE, AND ORGANIZATIONAL OUTCOMES
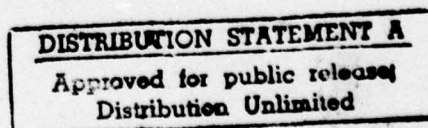
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Abstract

The Relationship between Organizational Feedback Mechanisms,
Employee Use, and Organizational Outcomes

In both industry and government, communication policy makers
are using employee feedback mechanisms to improve the flow
of information upward through the organization. However, to
date few studies have been accomplished which probe the ef-
fects of these systems on either their employee users or the
organizations which sponsor them. This exploratory study
examines questions of feedback system use and related impact
on employees and organizations. Four such mechanisms were
examined: a telephonic complaint channel, letters sent to
the editors of employee newspapers, complaints voiced
through interpersonal communication with an organizational
ombudsman, and a job improvement suggestion program. Each
system was evaluated in terms of individual perceived value,
actual use, and derived satisfaction from system use. In
addition, the utilization of these systems was associated
with organizational stability and effectiveness variables.
The environment of the study was 42 units of the U.S. Air
Force. Data on perceptions of channel value, individual
use, and resulting satisfaction were obtained from 417
questionnaires completed by military personnel within
these units. Data on organizational outcomes were obtained
through coordination with program managers responsible for

these organizations. Major findings in this study are:

1) The inspector general system, an ombudsman channel, is highly valued, carries messages perceived as significant, and has the greatest apparent impact on unit stability and effectiveness.

2) Neither the telephone nor the newspaper channels appeared to have any significant relationship with unit stability and effectiveness.

3) Unit effectiveness appears positively related to unit absenteeism. It appeared inversely related to unit attendance at military sick-call.

These findings suggest support of the inspector general system with implications for future application of content analysis techniques to help commanders forecast problem areas, prior to experiencing declining effectiveness within their units. Absentee and sick-call data may also be of value in the prediction of unit effectiveness. Programs such as the mediated complaint systems and the job improvement channel may require further study to determine what, if any, positive impact they may have on either individual system users or their sponsoring organizations.

The Relationship between Organizational Feedback Mechanisms,

Employee Use, and Organizational Outcomes

Chapter One--Theoretical Considerations

Background

Since the well-known Hawthorne studies indicated the
need for concern for employees by management (Mayo, 1945),
the use of employee communication systems in business and
government has increased. These studies marked the emer-
gence of a new school of management thought that emphasizes
the importance of employees and their role within the work
system. Theorists like Argryis, Herzberg, Likert, and
McGregor have given increased attention to the management of
people, in addition to the more traditional stress on the
management of material resources.

This shift in emphasis from the tenents of the scien-
tific management school to include principles of the human-
istic school as well, has changed the view of the nature of
communication within the work system. Communication had
been seen as directing the work of others, suggesting a flow
of information from the top down through the organization.
With this new perspective, management began to realize that
the processes of coordination and intragroup involvement
were also important. These processes require communication
among and from as well as to employees.

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Farace, Monge, and Russell (1977), for example, claim that communication is an indispensible element in the movement of material to work units, if that work is to be performed with efficiency. Communication allows management to view what is going on within the work system. It permits work evaluation. Thus, many of the managerial functions--planning, coordinating, organizing, controlling--are dependent on communication. This approach is exemplified by Kursch (1971), who cites a widespread belief that almost any problem within the work system may have as its cause faulty communication.

Between the poles of such scientific management theorists as Taylor and Weber and the viewpoint cited above lies a middle ground that would give communication systems within the organization some, but not undue, importance. That is the approach taken in this study.

We are concerned here with learning about a new form of communication mechanism that is of increasing importance in American business and government: the employee feedback channel. This study examines why these systems may be used, who may use them, and what the apparent outcomes of their use may be on the individuals and organizations involved.

As an exploratory work, this study focuses on what, if any, relationship may exist between variables of feedback mechanism use and variables of organizational output. The

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intent is to determine, if possible, what is happening in organizations where these new systems are in use.

The Importance of Organizational Communication
for the Individual

As mentioned in the introduction, this study is focused on two levels, the use and outcomes of feedback mechanisms on individuals and organizations. In this portion of the discussion, we examine how these systems might be used by individuals.

Methods of bringing information to the attention of management from the level of the line employee are relatively new. For example, Rogers and Rogers (1976) cite employee suggestion systems as methods that may do this. Throughout the literature, few studies focus on these systems, their use, and any apparent benefits. Harriman (1974), does, however, report on the use of mediated feedback mechanisms in the New England Bell Telephone Company.

Theories that may underlie the development, use, and apparent outcomes from use of such systems must, then, be deduced from other studies that were performed in the organizational environment but that did not examine systems designed to permit upward exchanges of information.

Certain studies probed interpersonal communication

between superiors and subordinates. Burke and Wilcox (1969), for example, cite the nature of this information exchange process as having an effect on the level of worker satisfaction. Scholz (1956), Seybold (1966), and Stanford (1972) also examine the role of communication as an element in the level of job satisfaction for the worker.

This trend in organizational communication research suggests that employee communication programs in general have direct and positive effects on levels of worker satisfaction. One result of more satisfied workers, then, should be higher organizational output.

It appears that individuals are affected by communication programs in some way that improves their perception of the environment in which they work. This improved perception of the work environment is sometimes linked to supposed improved levels of output. The apparent reasoning is that more satisfied workers will work harder or produce more or better products.

In general, as the communication environment for the workers is improved, we should find more satisfied workers. This might be the result of workers being able to freely exchange ideas with their superiors. Perhaps this freedom of information exchange between individuals at different levels within the organization is, in itself, a satisfying experience.

Another possibility is that, where workers have the freedom to communicate between themselves and with their superiors, they may "feel" better off than in an environment where they are not able to communicate freely. This possibility assumes that the need to communicate is satisfied by exchanging information with others within the work system. Glaser (1976) takes this environmental approach.

In summary, where the work environment is rich in terms of the ability to communicate with others, we should find high associated levels of worker satisfaction. However, our enthusiasm should be somewhat cooled by work such as that of Lupton (1975) or Proctor, Lassiter, and Soyars (1976), which does not emphasize the organizational communication environment as playing a significant role in determining the level of worker satisfaction.

It is likely that a stance similar to that taken by Likert (1967) may be appropriate. He maintains that the work system's communication environment is one of many variables that may be manipulated in order to improve the level of worker satisfaction. It may be an important element, but all problems within the organization probably are not caused by faulty communication. Therefore, even if we were able to improve the communication environment to some maximum point, we might still not significantly affect the level of worker satisfaction.

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What we might accomplish through implementing such a program of communication improvement is to free the flow of information in all directions throughout the organization. This might help employees in their attempts to seek information or to resolve problems within their work environment. If they were better able to do this, they might, in fact, be somewhat more pleased with their jobs, all things being equal.

The Importance of Organizational Communication
for Management

Just as individuals may benefit from programs of organizational communication, management also must have perceived some benefits of these programs in order to have made the decision to purchase them. If we assume that managers are pragmatic and communication programs are costly, then when managers decide to spend scarce resources on programs of employee communication, they must be convinced that the benefits derived more than offset the associated program costs.

This pragmatic assumption holds whether we are discussing businesses that measure their output by profit and loss, or military units that are judged in terms of combat effectiveness. Further, it should hold in this country as well as in other cultures that are profit oriented.

Management may improve its control and coordination of the work processes through improved organizational communication. Employees who understand better their jobs or the tasks of associated work groups should demonstrate an associated improvement in group output measures. Control is usually associated with work directives that flow down from top management to line employees. Coordination between work units is usually associated with communication that moves between groups of employees.

Information that flows upward through the organization may also be of benefit to management. It may provide managers with a "view" of reality as seen by those at the working levels of the organization.

If an organization is structured along the lines of a pyramid, its base provides a wide range of data inputs. Information gathered at this level may give management a wider view of the work system environment. Such a surveillance function, or data gathering activity, might assist management in reacting to changes within the organization's boundaries.

In summary, the benefits to management of organizational communication programs may occur in several areas. Among these is the traditional communication-satisfaction-output argument supported by Falcione (1974) and Sussman

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(1974). Another area is improved control over the organiza-
tion when more information moves between levels of employees,
whether up or down or across the work system. In general,
we would expect to find improved system outcomes where there
is great use of organizational communication strategies by
management.

We should be aware, however, of the limits of the first
supposed relationship. Just as all organizational difficul-
ties are probably not rooted in communication problems, we
should not always see improved levels of worker satisfaction
resulting in improved outcome measures.

Questions of Worker Satisfaction and System Output

The satisfaction-effects-output model has been explored
in depth by many researchers with mixed results, including
Scanlan (1976). The most that can be said of this research
is that a consistent, if somewhat low, relationship is re-
ported between variables of satisfaction and productivity.

Katzell and Yankelovich (1975) cite a massive number of
studies that fail to support a direct linkage between varia-
bles of worker satisfaction and productivity. Glaser (1976)
says that improvements in system output do not always result
from improvements in job satisfaction. He concludes that
the process of output improvement is much more complex.

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The work of Cummings, Malloy, and Glen (1975) examines this complexity of relationships. In their review of the research, they find nine variables, termed "action-levers," that may improve the work environment. Support for this complex view of output improvement through improvement in the quality of worklife comes also from Lupton (1975) and Organ (1977).

If the relationship between variables of worker satisfaction and associated system output is indeed complex, then perhaps the same complexity applies in the relationship between communication variables and levels of worker satisfaction.

In order to understand better the potential benefits of corporate communication strategies for both workers and managers, we now turn to several relevant theories that may provide insight into these apparently complex phenomena.

Discussion of Relevant Theories

Recall that we are conducting this investigation on two levels, the individual and the organizational. In this portion of the study, we present theories which may explain the potential benefits of organizational communication to both workers and managers.

To examine the potential benefits to workers, we need

first to understand why workers join their efforts with others to form the work system or organization. According to Lorsch and Lawrence (1972) individuals involve themselves with others in work systems in order to satisfy certain of their needs. By joining with others, they assume they may be able to satisfy these needs in a manner which they were unable to achieve alone. The needs which are satisfied might range the entire spectrum outlined by Maslow; self-actualization, security, and shelter might be achieved at lower cost to the individual through the effort of the group.

Shaw (1971) points out that the probability of need satisfaction is what may attract individuals to the group. He cites such variables as interaction, physical attractiveness, similarity with group members, group goals, group membership, and external effects of group membership as some of the reasons why individuals are attracted to groups.

We would expect that this attempt to satisfy needs may explain much about the behavior of the individual within the work system. For example, if a worker has a need for ego gratification, he might choose to engage in conversation with a superior to point out the excellence of his work. If a need is safety from the pressures of management, workers might band together to insulate themselves from demands

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which they believe are threatening.

The concept of needs and their satisfaction has been used by researchers such as Blumler and Katz (1974) to explain how individuals use the mass media of communication. Here the orientation is that certain media meet the needs of individuals better than others. According to these theorists, individuals are aware of their needs, and match their selections of mass media to those needs. For example, if one has a need to escape the pressures of reality, then a science fiction book or a movie might satisfy this need better than reading a text or the daily newspaper.

Within the work system, we find individuals working in small groups, having joined with their fellows in order to satisfy their needs. This should be the case in organizations where association is voluntary. It might not be the case were association forced, as in the case of an individual drafted into service in the armed forces.

While working within this voluntary group, the individual also is presented with media choices which may be similar to those analyzed in the public domain by the needs and gratifications theorists. The major differences might be that public media are not controlled by the organization for which one works, and that within the work system, one may interact in communication with management. This differs from the case of the use of public media, where one is

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presumed to select media based on needs and to use media rather than interact with them.

Despite these differences, we are forced to follow this needs and gratifications approach to work and media behavior because of the lack of research on media use within the organizational environment. Perhaps this might be an area of research worthy of investigation using methods similar to those used to examine the needs and their satisfaction through the use of the public media.

Within the work system we assume the employee acts in a manner which is consistent with his need structure. To do otherwise might be psychologically uncomfortable (Festinger, 1957). If this assumption is accurate and the individual is aware of his own needs and the potential for industrial media to satisfy them, then perhaps his use of these media is analogous to the manner in which media choices are made in the public domain. If so, then where media usage meets the needs of the individual, we should find, as one result, satisfaction with the performance of the particular medium of choice.

For example, if the need of the employee is information, then perhaps reading the corporate employee newspaper satisfies this need. If the need is problem resolution, then perhaps bringing his problem to the attention of a supervisor meets this need. The choice of communication systems

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should therefore be based on behavior which is need moti-
vated and which is consistent with the individual's percep-
tions of how needs may be satisfied and at what cost.

All things being equal, the communication system or
medium which satisfies the needs of the individual at the
lowest cost, should receive the most frequent use. The re-
sult of using media which do in fact satisfy worker needs,
may be improved satisfaction with the communication environ-
ment within the organization.

The potential benefits to management of the use of com-
munication strategies may lie in improved goal attainment.
A theoretical approach which appears relevant to this reason-
ing is that of cybernetics, the study of self-correcting
mechanisms. Based on the concept of feedback, this theoreti-
cal perspective holds that information can be used to make
decisions that then may bring the work system more in line
with its predetermined goals. Feedback is held necessary in
order to make required changes. Cadwallader (1968) points
out that for any organization to change, elaborate and spe-
cific feedback mechanisms must be maintained to provide the
information upon which decisions to change may be made.

Hage (1974) notes that the volume of information and
its direction of flow are important to the system in terms
of achieving systematic feedback so that change can be

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initiated. The work environment having such systems should achieve a higher level of accurate information for management to use in making the decisions that assist the organization in reaching its goals.

In summary, from a theoretical position, we can see two potential areas where employee communication systems may be of benefit to system users and the organizations that pay for them. First, if communication systems meet the needs of employees, then satisfaction for these systems should result. This may, in turn, be associated with an improvement in the satisfaction which employees have for the communication environment within the work system. Likert (1973) identified the communication environment as one of several organizational variables which may be associated with system output measures. Therefore, as the communication environment is improved, we may see an associated improvement in system outcome measures.

The improved communication environment might also improve the flow of information upward to management. If this were the case, then a second benefit for the organization might occur. This could be the benefit of improved decision making based on the receipt of information from the level of line employees. This information might be used to bring the organization more into line with its goals than if it were not available.

In order to understand this potential benefit for management, we should explore some of the problems which may be unique to the case of information which moves from low levels to high levels within the organization. If we understand these problems, then the potential benefits of upward communication systems may be more apparent.

Problems in the Free Flow of Upward Communication

The movement of information in an upward direction through the organization may be more difficult to achieve than downward or lateral movements. Yet, change cannot take place without feedback. Employees probably cannot have their problems resolved without the exchange of information with superiors. Such exchanges may be of potential psychic benefit to employees (Falcione, 1973).

When management wants information to move across the organization, it sometimes uses strategies such as the design of matrix organizations (Galbraith, 1973). If management wants information to move from the bottom to the top of the work system, then it should design its communication channels with equal care. With such care, it may be possible to counter the many difficulties associated with this form of communication.

This places management in a difficult situation. It

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may value worker satisfaction. It may value feedback. In order to help achieve both of these, it may decide to design communication channels which stimulate the free flow of information between organizational levels and individuals. In order to keep exchanges of information positive, however, management must be willing to accept criticism which may be the message content of the feedback channel. It must be willing to consider the changes suggested by employees.

But accepting criticism may not be easy for managers. Messages which are critical of their performance and suggest change may indicate they are not doing their jobs well. Such message contents might tempt managers to "kill" the bearers of the bad news that all isn't well within the organization (Miller, 1960).

If managers react in this way, then desired changes will not occur. If changes do not result, the benefits to workers of participating in information exchanges with management will not appear great. Fear of system use may result as employees perceive retaliation to be one of the costs of communicating with management. And, as fear of mechanism use increases, actual system use should inevitably decrease.

Unfavorable message content may be filtered by those in positions of high power within the organization. It is this filtering behavior that may be another source of channel distortion of message contents (Thayer, 1968).

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Deutsch (1966) comments that one measure of communication channel efficiency is the distortion level that results from message transmission. As noise increases, channel efficiency decreases. Since employee filtering of messages is a source of channel noise, the mechanism that copes with this will be more efficient than one that does not.

If fewer employees were involved in the information exchange process, for example, we would expect lower probability of distortion resulting from message filtering. Such a communication channel might be more efficient than one that involves more employees. If a channel is designed to encounter fewer power disparities, then, other things being equal, we would expect it to be more efficient, since distortion would be lower than in another channel involving more power disparities.

The movement by management to use strategies of communication designed to foster the free flow of accurate information upward through the organization may be an attempt to improve channel efficiency by coping with many of the problems outlined here. The cost of these channels may be offset by benefits to employees who may have their needs served better by such systems and by benefits to management, which, it appears, has value for undistorted information.

The use of these special methods of communication may reveal several things about employees and managers:

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First, it may be that employees have a need to communicate but fear to do so because of system retaliation. Special communication programs may cope with this fear or information exchange (Rogers and Rogers, 1976).

Second, system use may indicate that management recognizes the need for information accuracy and the potential problems of relying on normal, chain-of-command channels to carry information upward through the organization.

Third, the presence of such systems may show management more oriented toward people than production. They may be demonstrating to their employees that they are somewhat more humanistic than mechanistic.

Fourth, these systems may show that management believes it can achieve message accuracy at lower cost through their use than through programs of employee behavior modification, an example of this being reward for accurate message transmission (Allen and Cohen, 1969).

Fifth, management may also be showing its supervisors that they cannot be trusted to relay information accurately (Redding and Sanborn, 1964). Because they will not do this with accuracy, it has chosen to route information around supervisors.

Sixth, employees, when using these systems, show that they believe they may gain more than it costs them to use these mechanisms. Management, through their support for

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these strategies, shows it may believe the benefits to the
organization outweigh the associated costs.

Summary

In this chapter, several key points have been developed.
First, we have seen that the use of organizational communi-
cation systems has grown as management has become more hu-
manistically oriented. The growth of upward communication
channels is an effort of management to improve output
through the attainment of feedback from low organizational
levels.

Second, there may be benefits to both workers and man-
agers from these systems. Worker benefits may be associated
with needs and their satisfaction through these systems and
their results. If this is the case, then satisfaction with
the communication environment, one of many organizational
variables, might result.

This improvement in the organization's communication
environment may be associated with improved system outcome
measures. As satisfaction with the communication environ-
ment improves, satisfaction with the job may also improve.
This may be associated with improved system output. The
second potential benefit for management is that feedback
channels and their use may provide information upon which

better decisions may be made leading to improved goal attainment. This may permit goal attainment at lower costs than if these systems were not in use.

Third, if these systems and their use have potential benefits for both workers and managers, then we may find improved system output in organizations where these systems receive support by management and use by employees.

Where these systems receive high use, we assume that employees perceive them as meeting their individual needs at costs which are acceptable in terms of the results achieved through system use. Where these systems are supported by management, we would expect that managers perceive *their benefits* also outweigh any associated communication mechanism costs.

Thus, where high system use is encountered, we assume there would be a greater chance of seeing some outcome of this use in terms of work system output measure, than where these systems are not used by employees or supported by management.

Chapter II--Exploring the Benefits of Feedback Mechanisms

Introduction

In this chapter, we turn to an investigation of the possible benefits of four employee feedback mechanisms in an environment of the U.S. Air Force. These channels include an ombudsman system, two mediated complaint systems, and a suggestion program.

The ombudsman system is the inspector general complaint channel. This system involves interpersonal communication between the individual having a problem and the official attempting to resolve it. The mediated complaint channels are a 24-hour telephone system and letters sent to the editor of the employee weekly newspaper. The suggestion program routes job improvement ideas to top management. It is mediated in the sense that the suggestions are written rather than delivered face-to-face.

Throughout this portion of the discussion, we use a framework for analysis to assist in conceptualizing the relationships that may exist between variables of interest. This model resembles one familiar to students of persuasion: Who uses what channels for what reasons with what anticipated results? With this framework, we will investigate the potential benefits of the four mechanisms to individual users and sponsoring organizations within the U.S. Air Force.

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The Work Environment

In this portion of the study, two topics are introduced, the work environment and the communication channels available for employee use.

Within the U.S. Air Force, the standard unit of tactical organization is the wing. A wing unit comprises several flying squadrons, associated maintenance squadrons, and support organizations. The wing's mission is to organize, train, and equip personnel for the conduct of operations in an aerospace environment.

Wings are organized along similar lines, using a system with three deputy commanders. In this form of organization, the top executive is the wing commander. Normally, this individual holds the rank of colonel, has served more than 20 years, and is a pilot. Major managers within the wing include the three deputy commanders who lead the organizations responsible for flight operations (DCO), maintenance (DCM), and base support (DCR).

In Figure 1 we see the formal lines of organization of a typical Air Force wing. It should be noted that this is a simple diagram that shows lines of communication normally used for the transmission of work-related information.

Figure 1

Formal Wing Organization

Wing Commander

DCM————DCO————DCR

Sqd   Sqd   Sqd
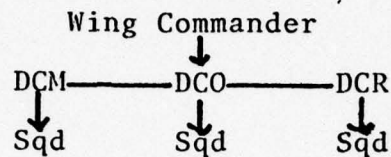
While Figure 1 shows the formal lines of communication within the wing, this does not mean that all communication moves in a vertical direction. Many task-oriented messages may flow across the organization, particularly for purposes of work coordination. The formal lines of communication are more often used to transmit information dealing with work matters. They may also be used to transmit information which is not work related, but as the message content becomes less work related, we would expect the use of less formal lines of communication to increase.

Figure 2 shows various communication channels that are available for the transmission of other than work related information. Many of these channels permit direct access to top management by employees working at the lowest levels of the organization.

Figure 2

Alternate Communication Channels

Committee—— Chap ——SJA—— Wing Commander——IG—— IO——Committee
DCM◄——————► DCO◄——————►DCR
Sqd   Sqd   Sqd
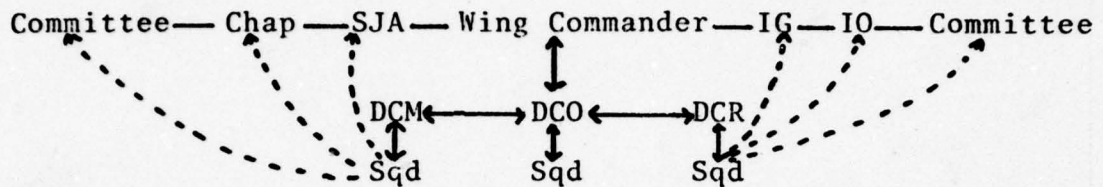
The communication channels shown in Figure 2 include direct routes to special wing agencies such as the chaplain (Chap) and the staff legal officer (SJA). Communication is possible with the wing inspector general (IG) and the wing information officer (IO). Other special channels include communication with special committees such as those dealing with problems of drug abuse and race relations.

Other methods of communicating with top management would include the use of the telephone and newspaper complaint systems and the military suggestion program.

The Variety of Communication Mechanisms

From these two figures we can see that an individual having a problem or seeking information has a wide variety of communication mechanisms available for use. The choice

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of a particular mechanism should be based on the individual's need for information or problem resolution and the personal perceived benefits and costs of using that system.

Of the three complaint systems of interest in this study, only the inspector general channel involves interpersonal communication. In order to use the program, the employee having a problem must meet directly with the official filling the ombudsman role, the wing vice commander.

At the base, this individual is usually a colonel with more than 20 years of Air Force service. While potential users of this sytem could vary in rank, age, and seniority, according to the official responsible for the management of this system throughout the Air Force, users tend to be either young enlisted or young officer personnel.

Since the age, rank, and tenure of the IG system users may vary and use of the system involves direct contact between the channel user and the problem solver, we would expect it to be high in its potential threat levels for the user. In terms of channel efficiency, however, the interpersonal mode of communication should have less channel distortion than systems which are mediated.

Differences in channel access do exist between the interpersonal and the mediated complaint mechanisms. In the IG system the user would usually make an appointment to

visit the senior officer in his office. This system is thus potentially more difficult to use than are the mediated channels where one may write or phone in a problem or complaint.

Because of the differences in implied threat levels, ease of channel access and channel distortion, we would expect that the more powerful system, the IG channel, even with its higher threat and more difficult access, would be used to solve more significant problems than the mediated systems. If a problem is of great significance to the individual, difficulties of access or loss of anonymity may be offset by the potential of having the problem resolved through direct communication with one of the wing's top managers. Therefore, the benefits to the individual may offset the greater costs associated with using this system as compared to other forms of complaint resolution.

Variance in the type of problem routed through the complaint system may have an effect on the volume of information routed through the channel. If more significant problems tend to be associated with the interpersonal mechanism, then we would expect to find lower use of this system than the mediated channels which may handle problems of less significance. Indeed, we would expect to find lower use of this system since problems of significance should occur less

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frequently within the unit than do minor irritants.

In terms of system outcome measurement, the channel which carries more powerful message content should have greater potential impact than do systems which have contents of less significance. The IG system, then, should be of more value to both system users and organizational management.

The other systems of interest are mediated. Of these, two are designed for complaint resolution or information seeking. The suggestion program is designed to route job improvement ideas to top management. Variance in channel content is present as we compare these systems. They also vary in their degree of user anonymity. Two, the newspaper and telephone complaint systems, may protect the user, but the suggestion program normally requires user identification.

These systems may also vary in terms of their potential users. For example, it is possible for any military member, regardless of rank, age, or tenure, to make a job improvement suggestion. We might expect, however, that suggestions to improve work may be related to the knowledge one has about how the task might be improved. This understanding may be gained over time on the job. Therefore, users of the military suggestion program may be somewhat more senior in

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rank, age, or tenure than nonusers of this channel.

Users of the telephone or newspaper channels do not have to be military employees. It is possible for civilian workers, military dependents, and retired military employees living near the base to use these channels. But as the name implies, the military suggestion program is designed for the particular use of military employees.

In terms of channel access, the suggestion program may be more difficult to use than are the mediated complaint systems. A suggestion usually has to be written out on a special form, while problems or questions may be phoned into the base information office or some other wing office having responsibility for complaint management.

In comparing the two mediated complaint systems along the access variable, we would expect the telephone system to be easier to use than the newspaper system. In terms of potential benefits of system use, however, the newspaper may have greater perceived benefits for the user as a question or complaint may be printed in the newspaper for others to read. A question or complaint routed through the telephone system could be answered for the user without subsequent publication.

In terms of channel use frequency, we would expect the telephone to be used more than the newspaper. The military suggestion program should be used less frequently than

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either of the two mediated complaint systems, due to variance in channel access and perceived threats of channel use.

In summary, when we consider potential channel use, we should find lower use in those systems that route more significant problems or that are more difficult to use. This would imply that use should be higher in the mediated complaint channels than in the IG channel. It also implies less use of the suggestion program than of the mediated complaint systems.

When we examine who might use these systems, we should find higher system use in lower ranks in the complaint channels. This may be a result of lower ranking individuals preferring resolution systems that avoid direct contact with higher ranking officers. If this is the case, and channel content is held constant, then the mediated systems should be used more frequently than the interpersonal system.

Rank may be higher among users of the suggestion program since more job experience may be related to the potential to submit suggestions on job improvements.

Once we understand who uses these systems and why, we can turn to questions of the potential impact of using these strategies. What may be the benefits of system use for the individual workers?

The User Benefit Model

In order to investigate potential benefits to users of these communication mechanisms, we assume the workers have needs that may be satisfied through system use. These needs may be real or perceived. The choice of the particular system is based on the perceptions of how that system may satisfy the individual's needs and at what cost.

The need to communicate may result from problems or from the need for information. It may also result from a psychic need to communicate with superiors. Another potential need may be physical relief that could result if a change in the work environment were made by management.

The choice of the particular communication channel is based then on the user's perception that benefits of channel use more than offset the associated costs of channel use. Variables that may affect system cost may include fear, access, and efficiency. These variables may combine to form the user's perceived value for a particular communication mechanism. As value for a channel increases, given the need to communicate, we would expect to see actual channel use also increase. Increased system use would be reflected in the increased volume of information within the particular channel.

Channel value may be the result of several factors.

For example, if a user has had a positive experience with a particular mechanism, then retained value for the system should be high. This is partially the result of channel use matching expectations for the channel prior to actual use. If results do not match expectations, we would expect that retained value for that channel would be low.

If potential channel users have trusted friends or co-workers who have high value for certain channels, these potential system users may have high value for the channel even if they have never actually used it.

A verbal model of the relationships that lead to actual use of a particular channel would be that perceived channel value leads to use of the channel, which then leads to the results of channel use. This assumes consistent behavior on the part of the channel user.

The results of channel use, if positive, would be to gain information, to reduce stress, or to change job conditions. These results may then improve the worker's level of satisfaction with the work system communication environment. We might then find an associated improvement in work system output measures.

An additional result of a positive experience with use of a particular communication channel might be the retained utility the user has for that channel. If the results of channel use did, in fact, match the user's initial

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expectations, then we might expect a result of this experience to be high utility. This utility might be carried over until the next time the need to use one of these systems occurred. High user utility might also be communicated to workers or friends having similar needs, but who were not familiar with using such systems.

The Organizational Benefit Model

The benefits to management from the use of these communication strategies may be seen in the improved output measures. These may be associated with either the improved worker satisfaction or the improved flow of upward information which provides management with feedback data for decision making.

Channel message content and volume would appear important in determining the accuracy and relevancy of the information carried in the feedback channel. If message content is held constant, then the channel that carries more information with equal accuracy should provide more data upon which decisions can be made.

If channels are alike in their volume of communication and in their accuracy, then channel content may have more relevance and may be of more potential value to management.

Channel accuracy may be a function of both message

content and disparities between the organizational positions of individuals involved in the exchange of information (Porter and Roberts, 1972). As content becomes more critical of management and the exchange of information involves greater power disparities, channel accuracy should decrease.

Message volume, or the amount of information flowing through a channel, may be a function of the problem level within an organization and of the user's perceived utility for that channel. As both variables increase, we would expect to see an increase in the amount of information in the channel.

Message content probably has an inverse association with channel volume. As complaints become more significant in their content, the information may have more value for management. But the volume of information may be less. In terms of benefits to management, we might expect greater benefit from channels which carry more significant messages with greater accuracy.

Within the environment of this study, there are three channels designed to carry complaints or problems. Of the three, one is interpersonal. This system, the IG channel, should be of greater potential benefit to management than its mediated counterparts. Face-to-face communication is usually more powerful as it permits instant, rather than delayed, feedback. It is more accurate.

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As this channel is more difficult to use and has higher implied threat levels than do its mediated counterparts, we would expect it to carry more significant channel content. This is because a problem would have to be significant for the user to overcome fear and problems with channel access to use the system. This combination of more significant channel content delivered through a more powerful medium of communication may make the IG system of greater potential value to management.

Assumptions and Issues

The framework outlined in the discussion of individual and organizational utility for the feedback mechanisms leads to several key assumptions and issues that are developed here. Key assumptions are:

1) Variance in the use of feedback channels reflects the differing value and utility that potential users and managers have for these systems. High use may be associated with high user value and high management utility for the potential benefits of these systems.

2) Channel access is constant. All users have an equal opportunity to use these systems. They also have about the same level of understanding of how these systems are designed to work.

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3) The problem levels within the organizations are constant. If units are located in similar geographic areas, have similar organizational structures, have similar populations, and operate under like conditions in terms of external environmental threats, then we assume that the problems found within these units should be equally distributed.

4) Therefore, variance in use of feedback channels is not due to variance in the problem levels in the units. It reflects the perceived ability of feedback mechanism use to resolve problems, lessen individual stress, or provide information. Variance reflects the assumption that where perceived benefits of use are high, actual system use will also be high.

These assumptions lead to the following research issues that are explored in this study:

1) Is system use associated with user rank? Since the systems being examined here were designed for the information seeking and problem resolution of young personnel, we would expect to see variance in system use associated with the ranks of the users. This should be most evident in the complaint channels. In the suggestion program, rank may be positively associated with system use. More senior users should have more suggestions for job improvements.

2) Is system value associated with system use? If it is, then, all things being equal, systems with higher user

value should receive more use.

3) Does channel selection vary with user problems? If it does, then more powerful forms of communication should be associated with more significant problems. As problem significance increases, we would expect channel use to decrease, since fewer significant problems are present within the work system.

4) Does individual satisfaction improve where communication channels are effective in handling problems or information seeking? If it does, then there may be a relationship between a high rate of channel use and resulting satisfaction for the individual channel users.

5) Is there any relationship between the use of feedback systems and unit output variables? If these systems have value for management, then we would expect to see some indication of this in output measures.

6) Does the level of association between variables of communication system use and output measurement vary with channel content? If it does, then channels which carry more significant information should be of more value to management in terms of their level of association with the system output measure.

Summary

To summarize this chapter, we have examined the potential benefits of organizational feedback systems on two levels, the individual and the organizational. Individual benefits may come through need satisfaction provided by the use of these systems. Needs for problem resolution, information, or ego satisfaction may be gratified when users turn to these mechanisms. As they have positive experiences using these channels, their level of satisfaction with the organization's communication environment may improve. As this is one of many variables that may be associated positively with system outcomes, we may see an improvement in these measures.

This potential outcome measure improvement is a benefit for management. While it may be associated with positive worker experiences in channel use, it may also be associated with the information these feedback channels provide to help managers make changes which may bring the work system in line with its established goals. If goals are reached with greater efficiency, then we would expect that the outcome measures of the organization would show improvement.

Therefore, regardless of the relative importance of these potential benefits to individual workers and managers, we would expect to see improved outcomes in organizations where these feedback mechanisms receive high use.

Chapter III--Research Methodology

Study Population

The population for this study was three major air commands of the U.S. Air Force. From the Military Airlift Command (MAC), Strategic Air Command (SAC), and Tactical Air Command (TAC), units were selected on the basis of their having a great number of like characteristics.

The 42 units selected were flying organizations having responsibilities as host units at their bases. They have the management responsibility for communication systems such as those outlined here. All the units are located within the continental United States. Each of the bases has its own office of information that is involved in the management of many employee communication programs. The selection process attempted to match the units on key variables so that a good degree of homogeneity could be maintained.

Organizational structure is the same in these units. All should have been commanded by individuals with similar rank and professional experience. Total unit populations in these organizations should have been similar. All are operating in a peace-time environment. This selection process was designed to limit variance in problem levels and formal channels of communication to as great an extent as possible.

Missile organizations of SAC were not chosen for

participation in this study because they might have struc-
tures or personnel that differ from the flying units. If
this were the case, this might be a cause of variance.

The population of individuals participating in the
study was 15 military employees at each of the 42 units.
These employees were not chosen at random but were instead
selected by wing information officers who administered the
study at the unit level. (See Appendix A for the letter of
instruction to wing information officers.)

Variables Defined for the Study

The variables that could affect the use of the feedback
channels include the age, rank, and seniority of the poten-
tial users. In addition, as outlined earlier, the individ-
ual's perception of the potential value of these systems is
also an independent variable of interest. At the unit level,
the actual use of these systems was examined. We are inter-
ested in the relationship between channel value and use and
also in how variance in system use is associated with any or-
ganizational outcome measures.

The reader should therefore be aware that, at times,
the frequency of system use is an independent variable while
in other steps in the data analyses, it is used as a depen-
dent variable.

Channel use is simply defined as one person using a particular system one time. Participants recorded in individual questionnaires how often they had used systems during a period of time. Within the organizational data, system use was reported by base data managers responsible for the management of the communication channels of interest.

The dependent variables for analysis include the level of satisfaction derived from using these systems at the base and the individual's perceptions of the communication environment within the unit. Other variables are included in the measures of unit stability and overall effectiveness.

Measuring these variables in organizations which are not profit-oriented can be difficult. Within the business community this is not the case. For example, Morely (1974) cites the two most common output measures for profit systems as being profit and loss.

Rushing (1974) cites management theorist Chester Barnard as having defined system output in terms of goal attainment. This measure may have better applicability to the nonprofit nature of government organizations.

Other potential definitions of system output have been gathered by Osborn and Hunt (1974). They cite factors such as system environmental adaptability and human asset values as possible output measures.

In general, measures of system output tend to be

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divided into two groups. These are measures of system impact on the external environment and measures of system internal stability (Pennings, 1976). The measures of external impact include sales, market share, and profit. The measures of internal stability are related to employee morale and satisfaction. These stability variables include measures such as employee retention and absenteeism. If these measures tend to fall, we assume morale and worker satisfaction is rising and the unit is becoming more stable.

Since we are working in a nonprofit environment, measures appropriate to the nature of that environment have been chosen. For example, Newburn (1972) suggests that some form of work quantification or sampling of work performance be conducted in order to determine system output in units not having a profit motive.

In this study, stability variables such as absentee levels, administrative discharge rates, and attendance at hospital sick-calls were used to measure the ability of the organization to maintain system life over time. As these measures become higher, we would expect unit stability to decrease.

In addition, a measure of overall unit effectiveness was developed along lines suggested by Newburn. A team of experts from a central coordinating office, the staff of the command inspector general, visit most bases each year.

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Their inspections are designed to probe the various strengths and weaknesses in the tactical units and in the many functional areas of support for these flying organizations. The results of these inspections were used to determine an overall effectiveness score for each of the 42 participating units.

Collection of Individual Data

In order to collect data on variables of individual channel value, use, and resulting satisfaction, a research questionnaire was developed. (See Appendix C.) The final questionnaire resulted from extensive coordination through Air Force channels and the advice of information officers in field units not involved in this study. It also was the result of valuable advice provided by the dissertation committee.

The questions that probe variables of interest in this study are numbers 2, 4, 6, 7, and 15 through 18. Other questions supply information of interest to the sponsor of this study but are not reported here.

Question 4 seeks information on perceived channel value to the individual respondents. Question 5 asks what problems they would direct to the various communication channels. In Question 6, we are interested in how many times

the respondents have used these systems during the past
year. The results of system use are questioned in items 2
and 7. These are related to the satisfaction derived from
the use of the particular systems under evaluation and the
overall satisfaction with the unit communication environment
in general.

The remaining questions yield information that is used
to related system use to variables such as rank, age, job,
and tenure within the U.S. Air Force.

From these questions, data were gathered on channel
value, problems associated with particular channels, channel
use, and resulting satisfaction from channel use.

Collection of Organizational Data

Data on organizational variables of interest were col-
lected in three ways. The base information officers were
sent data sheets for completion. (See Appendix B.) These
sheets provided data on the use of the telephone and news-
paper complaint channels.

Data on the military suggestion program and the IG
channel were collected through coordination with the com-
mand and Air Force managers of these programs. The unit
effectiveness scores were gathered through a visit to the
U.S. Air Force Safety and Inspection Center, Norton AFB,

California.

Summaries of the unit management effectiveness inspections were inspected at the Safety and Inspection Center. These summary sheets contained the verbal gradings of the various unit functional areas by the command inspectors. Inspection scores were then computed from these verbal ratings.

For example, flying operations, maintenance, civil engineering, administration, and personnel are some of the many functions inspected. Each of these areas could receive a verbal rating which ranged from outstanding to unsatisfactory. Ratings reflect the performance level demonstrated during the inspection.

A scale having a midpoint of zero was used to assign a value to these ratings. The score of zero corresponds to a rating of satisfactory. A score of 2 is given an outstanding rating, while a 1 is given to a rating of excellent. In the same way, -1 equals marginal and -2, unsatisfactory.

A unit rated outstanding in every functional area would receive a score of 2 throughout. Its average score for each functional area would be 2. The percentage score for the unit would be 100%, the quotient resulting when the average score is divided by the highest possible score. This is the overall unit effectiveness score. It can range from -100% to +100%.

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Predicted Outcomes of the Study

Outcomes which are suggested by the theoretical discussion outlined in the study are:

1) We should find a negative association between user rank and system use. As rank increases, use of these channels should decrease, as they were designed for use by junior employees.

2) Channel value should be positively associated with actual channel use. Where perceived value of the particular mechanism is high, then actual use of that mechanism should also be high.

3) Different channels will differ in the types of problems that are routed through them. Problems of greater significance to the individual should be routed through channels which are more powerful forms of communication. The highly significant problems should be sent through interpersonal rather than mediated complaint mechanisms.

4) Resulting utility from channel use should be positively related to satisfaction with the work system's communication environment. Where utility derived from channel use is high, we should see associated high levels of satisfaction with the organizational communication environment.

5) The use of feedback mechanisms should be positively associated with unit outcome measures. If this is the case,

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then the high use of these channels should be related to high work system output.

6) The level of association between feedback channel use and system output measures should be strongest for those systems with more significant content. If this is the case, then systems with more significant messages moving through them should have more pronounced relationships with output measures than channels that have less significant contents.

Summary

The research methodology developed herein was designed to investigate the possible relationships between the use of organizational feedback mechanisms by employees and any associated impact on organizational output variables. Two data bases were created. The individual questionnaires provided data on employee value and use of these systems at the unit level.

The questionnaires also provided information on the results of system use for employees in terms of the level of satisfaction individuals reported for each specific mechanism and for the total communication environment. They also yielded valuable demographic information that was used to examine questions of user rank, seniority, and job, as these variables might impact potential system use.

On the organizational level, data on system output variables were gathered across the 42 units to determine what, if any, relationship there may be between feedback system use and work system output measures. In addition, the actual system use frequencies at the bases were obtained so that they could be used in tests of association.

This methodology provided perceptions of individual value and derived satisfaction from system use as well as the actual use of these systems by individual study participants. This perceptual information was supported with data gained from the units and commands on how these systems are actually used. System output measures were provided by similar sources.

As a result, we have both individual and organizational data available for data analysis in order to test the several research issues raised in this study.

Chapter IV--Data Analysis and Results

Introduction

This chapter is organized into two sections to corres-
pond with the levels of analysis outlined in the methodology
discussion. The first deals with the results obtained from
analysis of the individual questionnaires. The second exam-
ines the data obtained from the unit data sheets and the in-
formation gained through coordination with Air Force program
managers.

The Individual Data

Of the 620 questionnaires sent to the 42 organizations,
417 were returned in time to be entered into the data base,
a return rate of 66.2%.

Many factors probably contributed to this high return
rate. Among them are the official sanction granted the
study by the Air Force and the ease of questionnaire comple-
tion. The latter resulted from extensive pretesting of
questions and from instrument modification that produced a
research tool based on theory, the author's experience with
these systems, the advice of the dissertation committee, and
suggestions of information personnel not actively involved
in this study.

In addition, the distribution of questionnaires was

coordinated through the Air Staff level of authority. Major
air command directors of information gave their support to
the study. Information officers in subject units received
personally addressed letters seeking their cooperation.
The questionnaires were brief. The required level of ad-
ministrative support at the wing information offices was
low. All of these factors may have combined to yield the
high return rate.

Overall Results of Individual Data Analysis

Table 1 presents information on the four systems that
were studied. This table is organized to present informa-
tion on individual perceptions of channel value, actual use
by individuals, resulting levels of satisfaction from system
use, and the types of problems that tend to be routed
through these channels.

Perceptions of individual channel value were given in
response to Question 4 of the research instrument. Respon-
dents rated the value of these systems on a scale of 1 to 5
where 1 indicated the particular system was of little value
to the individual. Channel use was indicated in response to
Question 6. Respondents indicated the actual number of
times they used these systems during the past year. This
total number of times the particular system was used was
then divided by the number of personnel using the system to

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give the mean use rate for the particular feedback channel.

Those who used a particular system were asked in Question 7 to report the results of this use in terms of how pleased they were with the channel. This was done by rating the system on a scale of 1 to 5 where a rating of 1 indicated they were not pleased with the results of system use. This rating is reported as individual utility in Table 1.

Finally, in this table we see the variety of problems that were routed through these systems. This information was obtained from the individual responses to Question 5, where problems associated with feedback channels best suited for problem resolution or information seeking were reported. Table 1 presents information showing the three most frequently reported items which were associated with the various feedback systems.

The determination of the top three categories of problems was made from a frequency table that showed how often respondents chose the particular problem and associated it with the particular feedback system.

The problems associated with channel use are base commissary (Comm), base recreational facilities (Rec), base housing (Base Hs), wear of the uniform (Unif), job improvement suggestions (Job I), suggestions dealing with base traffic problems (Traff), suggestions to improve base

entertainment (Base Ent), complaints of job discrimination
(Job D), difficulties with performance evaluations (Eff
Rat), and complaints that involve race relations (Race Rel).

The four channels are abbreviated as follows: the
telephone complaint channel (Tele), letters of items printed
in the base employee newspaper (News), and use of the wing
inspector general system (IG), and the use of the military
suggestion program (Suggest). These abbreviations are used
throughout both the analysis of the individual data and the
analysis of the base data, presented later in this chapter.

The information in Table 1 is therefore a summary of
the individual's perceived channel value, his use of the
channel, the utility resulting from channel use, and the
types of problems which would be routed through the four
feedback channels which are investigated.

Table 1

Data on Individual Channel Perceptions, Use, and Utility

	Tele	News	IG	Suggest
Value	2.84	2.99	3.24	2.45
Use	63	37	54	114
Mean Use	1.94	2.24	1.39	2.07
Utility	3.10	3.35	3.15	2.54
Problems	Comm	Unif	Job D	Job I
	Rec	Rec	Eff Rat	Traff
	Base Hs	Base Hs	Race Rel	Base Ent

In terms of perceived channel value, the IG system is rated highest among the four systems. When channel use is considered, the newspaper system has the highest mean use. Satisfaction resulting from system use is higher for the three complaint channels than for the suggestion program.

In regard to the types of problems routed through the various channels, the IG system appears to handle more significant problems than do the newspaper or the telephone systems. We assume that problems of job discrimination or race relations are more significant than are difficulties associated with proper wear of the uniform or with base recreational facilities. The messages routed through the military

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suggestion program are, for the most part, ideas designed to improve work methods.

Discussion of Apparent Results

The IG system is rated high in perceived value. We would then expect it to receive more use than the other complaint systems. But its mean use is lower than either the newspaper or the telephone channel.

Channel use should follow the individual's need for problem resolution or information seeking. If the need to communicate were equal across all systems, then as value for a particular channel increased, we should see actual system use increase.

The need to use the IG system is based on the type of problem that would be sent to that channel for resolution. As Table 1 shows, the problems associated with this system tend to be more powerful than those associated with the two mediated complaint systems. Problems of significance probably occur less frequently within the unit. Therefore, the need to use the system would not be as great. This may result in the lower use of the IG system when compared to either the newspaper or the telephone systems.

If we compare the value and use of the two mediated complaint systems, then mean use of the newspaper is higher. This appears to correspond with the higher value given this

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system than the telephone channel.

The military suggestion program shows the lowest score on the perceived value scale, but it ranks second among the four channels in mean use. This appears to violate the predicted relationship between value and channel use. This might be the result of external incentives to use this system that are not present to stimulate use of the complaint mechanisms. Suggestions are not dependent on problems. The incentive of possible cash rewards for the use of this system may drive its use up from the level expected from the channel's perceived value.

The relationship between perceived channel value, actual channel use and resulting satisfaction appears present in only two of the four systems. It is interesting that the two systems which display the predicted associations between these variables are quite similar. The newspaper and telephone channels are mediated, complaint resolution mechanisms. They appear to have similar channel content. Threat levels and channel access would vary to some degree, but perhaps not significantly.

We might conclude, therefore, that if channels are similar in such variables as access, anonymity, and content, then value, use, and resulting satisfaction may be associated. This pattern did not appear true, for example, in the

case of the IG system and the military suggestion program.
While the IG system does handle similar channel content to
the telephone and newspaper systems, it varies in fear lev-
els. The suggestion program varies in channel content.

In order to examine the relationship between perceived
channel value prior to using a feedback system and the level
of satisfaction resulting from channel use, the data on
these scales were associated through Pearson Correlation.

Table 2 presents the results of this test of associa-
tion. The reported relationships are significant at
$p < .001$.

Table 2

Association between System Value and Utility

	TeleUtl	NewsUtl	IGUtl	SuggestUtl
Value	.73	.41	.72	.53

There appears to be a relationship between perceived
channel value prior to system use and the level of satisfac-
tion resulting from mechanism use. This appears stronger in
the case of the telephone and IG systems. The association
between value and resulting satisfaction in the complaint

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systems should be one of high value related to high satis-
faction. Given the low value scores for the suggestion pro-
gram, we would suspect that low value is associated with
low satisfaction derived from using this program.

A note of caution. Questions 4 and 7 asked for values
and satisfaction levels prior to and after channel use. It
may have been difficult for study participants to separate
their perceptions of value and utility before and after sys-
tem use. The high levels of association reported might be
due to these variables measuring the same thing.

Analysis of Individual Channel Use

A major research issue that as of yet has not been ex-
amined is the question of who might actually use these sys-
tems. Table 1 provides some insight into this issue. For
example, within the mediated complaint systems we find that
most of the problems deal with the use of base facilities.
For problems' to be encountered with these facilities, they
would have to be used. Most base facilities tend to be used
by those living on the base. Potential users are probably
of lower rank, then, as base populations normally include
high numbers of enlisted personnel.

In order to examine the channel use by individuals,
three demographic variables were used: rank, age, and sen-
iority. These variables appear interrelated as shown by

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the information presented in Table 3. All the correlations
reported in Table 3 are significant at $p < .001$.

Table 3

Association between Rank, Age, and Seniority

	Age	Seniority
Rank	.62	.49

Since these variables appear interrelated, the examina-
tion of potential channel users was continued using the rank
variable in association with reported channel use. The pre-
diction was that users of the complaint systems would be of
lower rank than nonusers. In the case of the suggestion
program, rank should increase with channel use.

In order to analyze the relationships between rank and
channel use, respondents were divided into four rank groups:
junior enlisted, senior enlisted, junior officer, and senior
officer personnel. The junior enlisted group included the
ranks of airman through sergeant. The senior enlisted group
included the ranks of staff sergeant through chief master
sergeant. The junior officers included the ranks of second

lieutenant through captain. Senior officers included the
ranks of major through colonel.

These rank categories were then associated with the
channel use variable through a cross-tabulation table. No
significant results were noted through this analysis. This
might lead us to conclude that there is no association be-
tween rank and channel use. However, this lack of associa-
tion may be due to within-group variance that cancels out
any relationships that may exist within the data. Therefore,
the examination was continued using group scores on the ac-
tual use of these systems to see if the predicted relation-
ships could be detected.

This procedure of splitting ranks into four categories
and then seeing if any relationships existed was followed in
the cases of channel value and resulting utility. As in the
case of actual channel use, no significant results were noted
when statistics such as Chi-Square or Kendall's Tau were
used. As this appeared to be the case, analysis was contin-
ued using percentage figures to examine value and utility in
relationship to user rank.

Discussion of Perceived Channel Value

Table 4 presents information on the perceived channel
value across these four rank groups. The information reports
the percent in each rank group who selected value ratings of

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either 4 or 5 on the 5-point value perception scale.

Two additional scores, the average values between the enlisted and officer groups, are reported in this table.

Table 4

Percent Having High Value for Feedback Mechanisms

	Tele	News	IG	Suggest
Junior Enl	34.4	52.2	42.8	24.2
Senior Enl	39.0	58.0	38.2	23.5
Enl Avg	36.7	55.1	40.5	23.9
Junior Off	40.3	35.9	31.1	14.1
Senior Off	40.8	48.9	42.8	14.3
Off Avg	40.6	42.4	36.9	14.2

From this table we can see that the predicted relationships between rank and channel value do not hold across all systems. Within the complaint channels, the newspaper and IG systems are more highly valued by enlisted personnel than by officers. This appears to follow the proposed model for these variables. The telephone system, however, appears less valued by the enlisted personnel. This would

not fit the model.

Value for the suggestion program appears higher in the enlisted group. This may also violate the model in which we predicted that value for this system should be higher among those more senior in rank.

Discussion of Apparent Results

Within the complaint mechanisms, the variance in ratings for channel value does not appear great enough to conclude anything in the case of either the telephone or the IG system. But the difference in the averages between the officer and enlisted groups in the case of the newspaper system might indicated that enlisted members have higher value for this channel than do officers.

The problem in sorting the patterns of channel value and rank is that we do not know if value is reported in terms of problem resolution or in terms of stress reduction within the organization. The value for enlisted personnel may be in actual system use, while the value for officers may be in some contribution these systems make within the work environment. Officers, while not using these systems, may still value them if they gain information from them about the nature of the work environment. They may also have value for these programs if they work to solve the problems or provide information for unit personnel. This

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might account for the rather inconclusive results of this examination of rank and value variables.

The other apparent result of this analysis is that the suggestion program appears more highly valued by the enlisted group than by the officers. It may be that since enlisted personnel tend to work in line jobs where improvements and the need for them may be more apparent, they might tend to value these systems more for improvements within their work environment.

Analysis of Rank and Channel Use

A second phase of this analysis was to see whether actual reported system use by individuals varied with their ranks. The same rank categories were used here as in the previous analysis of rank and value.

In Table 5 we see the percent within the rank groups who reported using one of these feedback systems during the past year. Average use for the enlisted and officer groups is also reported.

Table 5

Percent Using Feedback Channels During the Past Year

	Tele	News	IG	Suggest
Junior Enl	15.0	17.1	12.1	24.3
Senior Enl	20.2	15.1	10.1	32.8
Enl Avg	17.6	16.1	11.1	28.6
Junior Off	15.2	9.8	6.5	33.7
Senior Off	8.2	4.1	2.0	18.4
Off Avg	11.7	6.9	4.3	26.1

The first thing we see in this table is that channel use appears to be higher within the enlisted ranks, in all systems. Within the suggestion program, however, this difference is small. It could have been caused by chance. Across the complaint systems, it would appear that use does vary with rank. More enlisted personnel than officers may tend to use these systems.

Discussion of Apparent Results

The higher percentage of actual system use within the enlisted ranks for the complaint mechanisms is as predicted. Use between junior and senior enlisted personnel does not appear to vary significantly across these feedback channels.

Use of the suggestion program does appear somewhat higher in the senior enlisted group than in the junior enlisted group. This would follow the prediction that suggestions may be developed over time on the job.

In the officer group, junior officers did tend to use these systems more than senior officers. Within the complaint systems, this pattern of use would follow the prediction that complaint channel use would vary inversely with rank. However, the use of the suggestion program did not follow this pattern. Junior officers reported more use of this system than did senior officers. It may be that junior officers, like senior enlisted personnel, tend to work in an environment of production rather than management. In this environment they may have more opportunities to view work and to suggest methods of job improvement.

In summary, it does appear that for the complaint systems, high system use is associated with low user rank. We would expect these systems to carry complaints of enlisted personnel, and possibly, junior officers. It may be that senior officers, while having value for these systems as managers, do not tend to use them but, instead, turn to chain-of-command sources as might be expected of individuals of high rank and tenure.

Analysis of Rank and Resulting Utility

The final relationship examined in this portion of the analysis is that of rank and the resulting level of utility the individual system use assigns the particular communication channel. Table 6 presents the results of this analysis. Here the percentages represent the number of system users within the rank group scoring the system they used either 4 or 5 on the 5-point utility scale. The rank splits used are the same associated with the last two tables.

Table 6

Percent Having High Utility Resulting from Channel Use

	Tele	News	IG	Suggest
Junior Enl	47.0	57.6	57.7	20.5
Senior Enl	48.4	38.1	47.1	25.0
Enl Avg	47.7	47.9	52.4	22.8
Junior Off	43.4	40.9	50.0	26.3
Senior Off	66.7	25.0	100.0	0.0
Off Avg	55.1	32.9	75.0	13.2

The first thing we observe is that the complaint systems received higher utility scores than did the suggestion program. This appears consistent across all groups and systems. Within the complaint systems, findings appear mixed. It would seem that within the enlisted group, the results of using these systems are about the same, although the IG system is rated higher than the other two. The same finding is seen within the officer group. The IG system received the highest utility scores.

Discussion of Apparent Results

It appears that higher utility was given the suggestion and newspaper channels by the enlisted personnel than by the officers. The reverse seems true in the case of the IG and telephone systems. We should note, however, that these results may be confused by the low number of officers reporting having used these systems. On the average, only five senior officers used any of the four systems. Therefore, we see very high and very low scores within this group.

Perhaps the only conclusion that can be drawn is that all groups assign low utility to the suggestion program. At the same time, both groups seem to have the greatest derived utility from the use of the IG system.

Summary of Value, Use, Utility, and Rank Analyses

In summary of the analyses thus far, apparent findings are as follow:

1) Average system use appears greater within the enlisted ranks, in the case of the complaint systems. No differences in apparent suggestion system use between enlisted and officer personnel are noted.

2) When system value is considered, the suggestion program receives the lowest perceived value scores. Values assigned by enlisted personnel do not follow a rank pattern. We do not find that, in all cases, the lower ranking group had higher value for these feedback channels.

3) In both groups, the IG system received the highest utility scores and the suggestion program the lowest scores.

4) The proposed linkage between channel value, use, and satisfaction from use is not supported. For example, while the IG system receives high scores for value and utility, it receives the lowest use of the three complaint systems. For the suggestion program, the situation appears reversed. While scoring consistently low in value and utility, the system use is high.

5) The IG is a valued system that is not often used. The nature of the channel content routed through this system may account for this fact. Because of its high value and

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significant message content, we would expect it to have more associated impact on organizational output variables than the other complaint systems.

6) The suggestion program is low valued but its use may be inflated through command quotas or the promise of cash rewards for suggestions. The disparity between channel value, use, and utility may then be associated with other than expected positive relationships with organizational output variables.

If artifacts such as channel content and external pressures for use were held constant, then perhaps use would be more clearly associated with channel value and utility.

Analysis of Derived Utility and Communication Satisfaction

In terms of the potential impact of the use of feedback channels, we proposed that where channel results matched previous expectations, there should be an associated positive impact on the utility that the channel user has for the communication mechanism. As this satisfaction with the experience of using a particular communication system increased, we would expect to find an associated improvement in the perceived satisfaction with the unit communication environment.

This proposed relationship was examined through Pearson Correlation performed by comparing the reported levels of

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communication satisfaction noted in response to Question 2 with the utility scores reported by system users in Question 7. The results of this comparison are shown in Table 7.

Table 7

Association between Communication Satisfaction
and Derived Channel Utility

	NewsUtl	TeleUtl	IGUtl	SuggestUtl
Satisfaction	.41***	.52***	.29**	.31***

(**Relationship is significant at $p < .01$)

(***Relationships are significant at $p < .001$)

Discussion of Apparent Results

The derived utility from system use appears related to the level of satisfaction with the unit communication environment. Since the complaint systems are rated high in utility, we would expect them to be associated with high levels of communication satisfaction. The reverse may be true with the suggestion program.

Since channel value and utility appear interrelated, we may have a similar case with the satisfaction and its

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association with channel value. User satisfaction, utility, and value may be measuring the same thing. The results of these associations should, therefore, be taken with caution.

Analysis of Study Assumptions

The final portion of the individual data analysis examines several of the assumptions made in this study. These include the constant problem level across the organizations.

One factor that might influence the problem level is the location of the units. All the units were chosen from bases located within the continental United States. However, locations vary as to their proximity to major population centers. For example, units in this study are located near Limestone, Maine; Alamagordo, New Mexico; Miami, Florida; and Phoenix, Arizona. The first two locations are low in population while the latter two are near high population centers.

We previously speculated that individuals confined to the base might find more problems with base facilities. In units removed from nearby population centers, activity might center around the base and its facilities. Therefore, location might result in more problems within the units.

To examine the association between location and problem levels, units were grouped into low, medium, and high population categories. A cross-tabulation table was used to see

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if channel value, use, and utility varied according to unit location. The results did not show any significant relationship between location and these variables.

An additional check on perceived channel value, use, and resulting utility was made to see if an overrepresentation of information personnel among study participants might influence the results. According to the demographic data, nearly 40% of the participants were from this career field. This was a violation of the intent of the study directions, since only about 20% of the respondents should have been from this specialty.

Two job categories were created: information specialists, and all other specialties. A comparison of group mean scores on value, use, and utility did not show any significant differences between these groups.

Discussion of Apparent Results

It does not appear that the results of the individual data analyses were influenced by either the location of the units or the jobs of the study participants.

In the case of the unit location, it may be that at remote duty sites, life does revolve around the base. Base facilities may receive more use than at other locations where the bases are close to major population centers. There may be more problems within these remote units. But

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perhaps at these locations, other means of problem resolution are more often used. If this is the case, then there would not be an increased use of the three complaint systems studied here.

In the case of the overrepresentation of information personnel, perhaps their perceptions of the value, use, and utility of the feedback channels do not vary significantly from those of military personnel in other career fields represented in this study.

Summary of Results of Individual Data Analyses

The analyses of the individual questionnaires suggest several points about the perceived value, use, and apparent results of the use of the four feedback mechanisms.

1) Channel users appear to be young enlisted personnel. More enlisted than officer personnel appear to use the complaint systems. Senior officers tend to use the complaint channels less than any other group. The use of the suggestion program is about the same in both the enlisted and officer groups.

2) Value for the complaint systems is higher than for the suggestion program. Of all four systems, the suggestion program is valued least. Value for the newspaper and the inspector general systems is somewhat higher among the enlisted personnel. This is also true for the suggestion

program.

    3) Resulting satisfaction from system use is higher for the complaint systems than for the suggestion program. The inspector general system has the highest utility score for both the officer and enlisted groups.

    4) Satisfaction with a particular communication system and overall unit communication satisfaction appear positively related.

    5) Violations of study assumptions do not appear to have significantly influenced the results.

    A note of caution. The respondents to the questionnaires do not constitute a random sample of unit personnel. Therefore inference to this larger population should be made with care. On the average there were 12 respondents per base. This amounts to about .26% of the unit population. With this small amount of information available, interpretations of results reported here should be made with care.

Analysis of Base Data

    The purpose of this portion of the discussion is to report the results of the analysis of data collected across the 42 participating wings. Variables of interest include the frequency of use of the various communication systems. These four variables and two others, the self-reported

individual values for the communication systems and levels
of satisfaction with the unit communication environment,
taken from the questionnaires, are used in this portion of
the analysis.

The frequency of channel use was reported by the wing
information officers in the case of the telephone and the
newspaper systems. The office of the program monitor for
the military suggestion system at the three major air com-
mands reported the participation in that system. The offi-
cial responsible for the management of the inspector general
complaint channel provided data on the frequency of use of
that program.

The individual channel values were calculated for each
of the bases in the study by taking an average value for
each of the four communication systems at each of the bases.
These values were then used in various analyses presented
here.

The unit satisfaction levels were calculated in much
the same manner. The individually reported level of satis-
faction with the unit communication environment was averaged
at each of the bases. These averages were then entered into
the organizational data matrix for use in tests of associa-
tion discussed later in this portion of the study.

Dependent variables included the measures of unit

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effectiveness and stability. Data on unit stability were gathered through coordination with Air Force program managers. As outlined earlier, the unit effectiveness scores were calculated from the summaries of the unit management effectiveness inspections. The following formula was used to calculate this variable:

$$\left[\underline{n}(2) + \underline{n}(1) \right] - \left[\underline{n}'(1) + \underline{n}'(2) \right] / \underline{N}(2) = \%$$

In this formula, $\underline{n}(2)$ is the number of functional areas receiving an outstanding inspection rating. The number of areas rated excellent is $\underline{n}(1)$. The number of marginal and unsatisfactory areas are $\underline{n}'(1)$ and $\underline{n}'(2)$, respectively. The denominator, $\underline{N}(2)$, is the total number of areas inspected multiplied by the highest possible inspection rating. The quotient is the unit effectiveness score.

Analysis of the Relationship between Variables of Interest

In Table 8 we see the results of Pearson Correlation analysis used to see what, if any, association there may be between variables of channel use and system outcomes measured within the organizations participating in this study. The outcomes include stability variables, the unit effectiveness score, and the level of communication satisfaction within the unit.

The stability variables include the unit level of employee absenteeism (AWOL), the use of the hospital for military sick-call visits (Patient), and the number of administrative discharges recorded in these units (Discharge).

The data matrix contains information on these variables in the 42 participating wings. This information is not complete on all units. The resulting "$\underline{n}$" for these analyses is less than 42, $\underline{n}$ = 32.

Table 8

Relationship between Channel Use Frequencies

and System Output Variables

	News	Tele	IG	Suggest
Effectiveness	.09	.05	-.25*	.02
Satisfaction	.21	.12	.02	-.18
AWOL	-.07	.10	-.26*	-.10
Patient	.11	.11	.25*	.12
Discharge	-.11	-.12	-.15	-.03

(*Relationships are significant at $\underline{p} < .05$)

In Table 8 we find three relationships that appear

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significant. All are within the IG system. Two others that may approach significance are between unit satisfaction and the use of the newspaper and suggestion programs. The level of significance reached in these relationships is $p < .12$ and $p < .15$, respectively.

These relationships may indicate that the use of the IG system is negatively associated with the unit effectiveness score and the absentee rate. The use of this system may be positively associated with the level of attendance at sick-calls. The level of satisfaction with the unit communication environment may be slightly associated with the use of the newspaper system, while the use of the suggestion program appears negatively related to the unit communication satisfaction score. This could indicate communication dissatisfaction.

Discussion of Apparent Results

If these associations are present, then as the IG system is used more frequently, we would expect to see unit effectiveness decline. We have already learned that this system may be used to solve significant individual problems. As these problems increase within the unit, we would expect unit effectiveness to decrease. The rising use of the IG system should reflect the rising problem level within the unit. This might account for the apparent inverse

relationship between these variables.

The same type of relationship appears present in the case of the IG system use and unit AWOL rates. Here, as the number of people absenting themselves from duty increases, we would expect to see the use of the IG system decrease. It may be that the presence of these people within the unit may result in increasing problem levels. As they leave, problem levels may decrease, with a related decrease in the use of the IG system.

The apparent positive relationship between variables of IG system use and sick-call attendance may be due to problems within the units. As problems increase, we would expect stress within these organizations to increase. Perhaps individuals seeking to escape this stress do so by visiting the hospital. As stress mounts with the unit problem level, the use of the IG system should also increase. This might account for the positive relationship between these variables.

The difference in sigh between the relationships of IG system use and unit AWOL and sick-call levels is interesting. Individuals leave the organization through absenteeism. They return to duty after visiting the hospital. Stress might be reduced if they go AWOL; it might still be present if they return to duty.

The use of the newspaper system may be positively associated with overall communication system satisfaction. Where this channel is used more frequently, perhaps the level of satisfaction with the communication environment is improved.

In summary, as predicted, the more powerful complaint mechanism tends to show greater association with unit outcome measures. We might then conclude that the IG system has greater potential effect on these outcomes than do the other complaint mechanisms.

Analysis of the Relationship between Unit Effectiveness and Variables of Unit Stability

While no prediction was made as to the relative impact of unit stability variables on unit effectiveness, it may be valuable for commanders and communication policy makers to have an idea of which, if any, of these variables predict unit effectiveness. If this can be determined, then management might be able to use these variables to determine whether unit effectiveness is rising or falling. This could be valuable information, assuming the commanders would like to know their effectiveness level prior to the arrival of the command inspectors.

Table 9 presents information on the strength of the association between these stability and effectiveness

variables. The test of association used was Pearson Correlation.

Table 9

Association between Unit Effectiveness and Stability

	AWOL	Dis	Pat
Effectiveness	.38**	.17	-.33**

(**Relationships are significant at $p < .01$)

From Table 9 we may conclude that the unit AWOL and sick-call attendance levels are somewhat related to the level of effectiveness as determined by the command inspectors. It appears that as the AWOL rate increases, unit effectiveness may also increase. The reverse seems true in the case of the unit sick-call rate and the level of unit effectiveness.

Discussion of Apparent Results

The unit AWOL and sick-call rates may be of value as predictors of unit effectiveness. For example, as the patient rate increases, the commander might suspect that

effectiveness is decreasing, perhaps as a result of increasing stress levels within the organization. If stress is related to problems, then mounting problems would appear related to declining unit effectiveness.

It also appears that as AWOL levels increase, unit effectiveness should also increase. It may be that as certain individuals remove themselves from duty, problem levels may tend to decline. As problems decrease, effectiveness should increase.

Analysis of Assumptions

The relationships which are apparent from the analysis of the organizational data depend to some extent on the assumptions made about the organizations studied in this research. If these assumptions have an impact on the results of the data analysis, then the conclusions reached here might be more tenuous. For example, a major assumption in this study was the equal distribution of problems within the units. This might depend on the unit populations. If some units are larger than others, then perhaps the larger units have more problems. If this is true, then in the larger organizations, there could be more problems. Then these units should be associated with greater use of the feedback complaint systems. By the same reasoning, larger units might have a greater level of participation in the military

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suggestion program.

The populations of the wings average 4,460 with a standard deviation of 1,553. In order to learn if this difference in the number of assigned employees had any influence on the resulting use of the communication channels, the populations of the wings were associated with the channel use frequencies. The results of a Pearson Correlation analysis did not show any significant correlation between unit population and the use of the feedback system.

A second assumption examined was the potential effect of geographic location on actual use of the channels. The same geographic groupings were used in this analysis as were used in the analysis of this assumption in the individual data. Mean channel use frequencies were compared across the three population categories. There were no significant differences between the mean use in these groups.

Discussion of Apparent Results

The conclusions reached from these analyses are that neither variance in unit population nor variance in geographic location appear to influence the results to any significant degree.

However, the potential problem posed by variance in units populations could be overcome if accurate figures on three sets of potential channel users were available. These

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would include data on military, civilian employee, and dependent populations at or near the bases.

Data of this type were available for use in the case of a single variable, the hospital sick-call attendance. The office of the surgeon general maintained figures on the total military populations in areas near major hospitals. This figure was then used to convert raw use data into the rate of sick-call attendance for the various hospitals.

Summary of Results of Base Data Analyses

After analyzing the base data, we appear to have found the following:

1) The IG system appears more strongly related to organizational outcome measures than any of the other three feedback systems.

2) The use of the IG system and the level of unit effectiveness appear inversely related. This might indicate that high use of the IG channel may be a symptom of declining unit effectiveness.

3) The use of the IG system appears positively associated with the unit sick-call rate. Both, then, may be symptoms of declining organizational effectiveness. Both may be symptomatic of rising unit stress levels which may signal falling effectiveness levels.

4) The use of the IG system appears inversely related to unit AWOL levels. High IG system use should be found in units having low AWOL rates.

5) The use of the newspaper channel may be weakly related to the resulting level of communication satisfaction within the organization. High use of this system might have some association with high resulting communication satisfaction.

6) The use of the military suggestion program may be somewhat negatively related to the resulting level of satisfaction with the unit communication environment. If this is the case, then high system use could lead to communication dissatisfaction.

7) The sick-call attendance rate may predict unit effectiveness. As this rate increases, effectiveness may decrease.

8) The unit AWOL rate may predict unit effectiveness. As this rate increases, unit effectiveness may also increase.

9) Although the assumptions of unit population and location were violated, this does not appear to have caused any significant influence on the results of the data analyses.

In conclusion, the same general warning applies to

potential inferences from these findings as that made in the individual data analyses. These units do not constitute a random sample of wings in the three major air commands. Therefore, applying these findings to units not involved in the study or not similar to those analyzed should be done with caution.

Chapter V--Implications and Recommendations

Introduction

This study was authorized and sponsored by the U.S. Air Force. In this chapter we present the implications and recommendations suggested by the findings. The intent of this chapter is to provide advice on how these findings might be used within the Air Force to improve outcomes in organizations similar to those analyzed here.

Implications of the Study

The strongest finding in this research appears to be the impact of the inspector general system on the organization. This system appears highly valued, carries significant messages, and appears positively related to organizational effectiveness. If this is the case, then several things may be implied from this general finding.

1) Commanders may want to track the frequency of IG system use. As system use increases over time, it may be an early warning that unit effectiveness is decreasing.

2) If the use of this system provides such warning of declining effectiveness, then commanders may want to analyze not only the frequency of system use, but also the types of problems that are brought to their attention through this feedback mechanism. If techniques such as content analysis

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were used, then it might be possible to isolate potential unit problems for correction before unit effectiveness is significantly eroded.

3)   Since this system appears to be a powerful method of problem resolution and appears associated with unit effectiveness, commanders might want to increase their support for the use of this channel within their units. If this system benefits individuals through problem resolution and commanders through environmental surveillance, then it should probably receive increased command support.

A second finding concerns the apparent association between variables of organizational stability and effectiveness. Unit AWOL and sick-call attendance seem to be associated with unit effectiveness. If this is the case, then commanders might consider the following actions:

1)   These variables should be tracked over time. As the AWOL rate increases, effectiveness might also increase. The reverse appears true in the case of the sick-call rate.

2)   It might be possible to use content analysis techniques to determine if there are categories of problems associated either with individuals using the sick-call to withdraw from the work system, or using AWOL as a means of absenting themselves from the work force. If problems could be classified, then they could be isolated for correction

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before they grow to the point where they might erode unit effectiveness.

A final area of interest appears to be the lack of any association between the use of the two mediated complaint mechanisms, the telephone and newspaper channels, and the outcome variables. This may suggest several possible actions.

1) These systems should be studied further using measurement criteria that may be more appropriate to the nature of their channel content. It may be that in the present study, the outcome variables used required powerful message content in order to register any impact.

2) The newspaper system and its use may have some influence on the level of communication satisfaction within the unit. If other criteria were used for the evaluation of this program, a better idea of its real value for users and managers might result.

3) If, after continued analyses, these programs still do not appear associated with unit outcome measures, then perhaps they should be considered for elimination with associated benefits for the units in the form of cost reduction.

Recommendations for Further Research

The results of this study suggest several areas for

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continued analysis of the use of employee feedback mechanisms and their related impact on users and sponsoring organizations.

1) Questions of user rank, perceived channel value, and resulting satisfaction from system use might be included in the frequent analyses of employee attitudes and opinions examined in the Air Force triannual survey. If this approach were used, then a clearer idea of who uses these systems, how, and with what apparent results could be obtained. This information would then reflect how these systems are used throughout the U.S. Air Force.

2) Among the 417 participants in this study, only one commander completed a questionnaire. If these systems do have value for senior managers, then their opinions may be of great importance. It might be possible to seek information from a population of potential commanders and senior managers by working with a group such as students at the Air War College. A research instrument administered to this group could yield valuable information as to how these systems are viewed by senior Air Force officers.

3) A major point of interest appears to be how these systems and their use might influence the satisfaction of employees. It might be that line employees have their level of satisfaction with the work environment improved

where these systems are used. But, as suggested by Redding and Sanborn (1964), the satisfaction level of supervisors might be reduced where these systems receive high use. If this is the case, then perhaps a valuable study might be performed using bases where maximum variance in system use is found. Satisfaction among supervisors might then be compared to that found among line employees.

4) In order to improve understanding of the potential influence these systems might have on levels of unit effectiveness, an improved effectiveness measure should be developed. In this study, for example, all functional areas inspected were equally weighted. This does not appear to be an accurate method. It may be that operations or production functions contribute more to the determination of unit effectiveness than do functions such as administration or personnel. If so, then perhaps command inspectors could report the relative importance they assign the functional areas so that they could be weighted according to their contribution to organizational effectiveness.

5) Accomplishing this exploratory study pointed out the need for data standardization across commands and functions. Data should be collected, reported, and stored in the same manner. in order to improve the accuracy of comparisons of measurement between units and commands. Additional measurement accuracy might be gained if data were collected

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in a form that discounts any influence unit populations
might have on these measures.

6) In performing this study, it was interesting to
note the existence of data based in all the functional areas
other than information management of the employee communica-
tion programs. If information personnel are to evaluate
properly the performance of their communication efforts, it
would seem appropriate to create a data base that includes
measures of program use and appropriate outcome criteria.
If such a data base were created, then it might be possible
to evaluate more effectively programs in terms of their po-
tential benefits and costs.

Recommendations for Information Staff Officers

To conclude this study, two recommendations appear ap-
propriate for information personnel who work in units such
as those included here.

1) Potential users' understanding of communication
mechanisms may influence their subsequent use of these chan-
nels. If management has value for these systems, then they
should be used. Use may be a function of how valuable these
systems appear to be in the mind of the user. Value might
be improved where the results of system use match user ex-
pectations.

Information personnel might play an important role in educating employees as to the nature of these systems, how they might be used, and with what results. With an accurate understanding of how to use a particular feedback system, when, and with what expected results, the level of perceived value among employees might improve. As value for these systems improves, we might find actual system use also improving. If, as in the case of the IG system, use may influence employee and organizational stress levels, then both workers and units might benefit from this educational effort.

2) Information officers in units such as those studied might assume a slightly different role as providers of information on the rate of feedback system use and problems routed through these systems. This suggests an intelligence function. For example, information officers might assist inspector general and medical personnel to monitor the use rate of the IG system and the rate of attendance at sick-call. They might be valuable in providing assistance in analyzing the problem areas that could be causes of organizational stress.

If this service were performed, then commanders of these units might have an improved view of unit effectiveness and potential problem areas that may reduce it. This

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surveillance function and the information provided commanders might thus help improve unit effectiveness.

The combination of educator and problem investigator might make the information staff officer more valuable to the commander than the more traditional role of unit publicist.

Summary

To conclude the study, it appears that the IG system is the only mechanism investigated that may have an influence on organizational outcomes. This may be due to its carrying more significant or more critical message content than the mediated complaint channels. Also, interpersonal communication may be more accurate than mediated communication.

Further studies of the other mechanisms should be undertaken before any decision to eliminate or modify these programs is made. Perhaps with other measurement criteria they may be of value to their sponsoring organizations.

The evaluation of these programs might be improved if more accurate data were available. More sophisticated forms of data analysis might then be used to improve the accuracy of determining the associations between variables of channel use and organizational outcome.

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Finally, if these systems have value for management, then information personnel might assist their commanders in stimulating employee use through improved understanding of the channels and their potential benefits. Additional assistance to commanders could be given through monitoring the use of these systems and identifying the problems which are routed through them.

This assistance may then have some associated benefit to the commanders and to the units which use and support strategies such as those examined in this study.

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Appendix A

Letter to Wing Information Officers

(Date)

———————————————
———————————————
———————————————

Dear _____:

I am writing to ask your assistance in a SAF/OI sponsored
research project designed to determine the impact of several
employee communication programs in three major air commands.
The programs evaluated include the military suggestion sys-
tem, the telephonic "Action-Line," letters which are printed
in the base newspaper and problems handled through the wing
inspector general's office.

In this package you will find several questionnaires and a
data sheet. The questionnaires are to be completed by you
and four officers of your choice, by your NCOIC and four
other NCOs, and by your newspaper editor and four other
young enlisted personnel. The questionnaires are brief and
self-explanatory.

The data sheets should be completed by you or a member of
your staff. If you do not have precise figures available,
please do your best to provide an estimate for the data re-
quested.

When you and your staff have completed the questionnaires
and data sheets, please return them in the envelope provided.
If possible, I would like to receive them prior to 7 Feb 78.

Your assistance will aid those working in the information
field to better advise commanders on the relative costs of
communicating. If you should have any questions, please
call me at:

AC-714, 962-1126

Sincerely,

STEWART S. DUNCAN, Major, USAF
Doctoral Candidate
The Annenberg School of Communications
University of Southern California

Appendix B

Data Sheets

Data Sheet #1

Please give the <u>number</u> of "Action-Line" items and/or letters which have been <u>printed</u> in the base newspaper each month in 1976, 1977.

<u>1976</u>				<u>1977</u>			
Jan	_____	Jul	_____	Jan	_____	Jul	_____
Feb	_____	Aug	_____	Feb	_____	Aug	_____
Mar	_____	Sep	_____	Mar	_____	Sep	_____
Apr	_____	Oct	_____	Apr	_____	Oct	_____
May	_____	Nov	_____	May	_____	Nov	_____
Jun	_____	Dec	_____	Jun	_____	Dec	_____

Data Sheet #2

Please give the number of calls received via the base "Action-Line" each month for the past two years.

<u>1976</u>				<u>1977</u>			
Jan	_____	Jul	_____	Jan	_____	Jul	_____
Feb	_____	Aug	_____	Feb	_____	Aug	_____
Mar	_____	Sep	_____	Mar	_____	Sep	_____
Apr	_____	Oct	_____	Apr	_____	Oct	_____
May	_____	Nov	_____	May	_____	Nov	_____
Jun	_____	Dec	_____	Jun	_____	Dec	_____

Data Sheet #3

1. Unit of assignment _____

2. Base of assignment _____

3. Number of military personnel assigned to unit _____

4. Number of military personnel assigned to base _____

5. Rank of current commander _____

6. Please estimate the percentage of calls received via the base telephone "Action-Line" which are printed in the base newspaper _____

Appendix C

Research Questionnaire

Research Questionnaire

USAF SCN 78-35A (Expires 31 May 1978)

This Air Force approved survey is designed to provide information on various employee communication programs. These include letters to the base newspaper, questions asked by callers using the telephone "Action-Line," the military suggestion program, and visits to the wing inspector general.

Privacy Statement

In accordance with paragraph 30, AFR 12-35, Air Force Privacy Act Program, the following information about this survey is provided:

    a. Authority. 10 U.S.C., 8012, Secretary of the Air Force: Powers and Duties, Delegation by.

    b. Principal Purpose. This survey will provide data on the benefits of various Air Force communication programs.

    c. Routine Use. The data will be used for statistical analysis.

    d. Participation in this survey is entirely voluntary.

    e. No adverse action of any kind may be taken against any individual who elects not to participate in this survey.

1. Think of ten of your friends or co-workers. If they all had a problem which required information to solve, where would they be likely to go to get this information? Please indicate in the space provided how many of these ten friends would use the particular information system indicated below.

    A. Wing telephone "Action-Line" _____

    B. Write to the base newspaper _____

    C. Visit the wing inspector general _____

    D. Ask supervisor _____

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E. Ask a friend _____

F. Other (please indicate) _____

2. Your wing commander receives many questions and suggestions from unit personnel. Of the questions that are received, what percentage would you say are answered to the satisfaction of the person having the problem, suggestion, or complaint? If you believe that all such questions are answered to the satisfaction of the individual, then the answer would be 100%. _____%

3. Within your wing, who do you think decides to answer a specific question or complaint? Please use a <u>percentage</u> to show who you believe makes these decisions.

A. Wing commander _____%

B. Vice wing commander _____%

C. Base commander _____%

D. Senior enlisted advisor/first sergeant _____%

E. Other staff officer _____% (please indicate)

4. What is the value <u>to you</u> of the following information programs in terms of the help they give you in solving a problem or resolving a complaint? A score of <u>five</u> shows they are of <u>great value</u>; <u>one</u> shows they have <u>little value</u>.

		Great				Little
A.	Wing telephone "Action-Line"	5	4	3	2	1
B.	Wing inspector general system	5	4	3	2	1
C.	"Action-Line" columns printed in the base newspaper	5	4	3	2	1
D.	Military suggestion program	5	4	3	2	1
E.	Special advisory councils	5	4	3	2	1

5. People use communication programs for various reasons. Select a communication program and show when you would use it by choosing from the programs in Column A and the reasons for use in Column B. Put the <u>number</u> you choose from <u>Column B</u> next to the program of choice in <u>Column A</u>.

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	Column A		Column B

Column A

a. Telephone "Action-Line" ( )

b. Newspaper "Hot-Line" ( )

c. Inspector general ( )

d. Military suggestion pro-gram ( )

e. Special advisory councils and committees ( )

Column B

1. Equal opportunity problems

2. Race relations prob-lems

3. Problems with housing

4. Suggestions to improve the on-base entertain-ment

5. Suggestions to improve base traffic safety

6. Problem with a poor OER/APR

7. Problem with base fa-cilities for recrea-tion

8. Problem of job dis-crimination

9. Question of how to wear the uniform prop-erly

10. Question about opera-tions of the base com-missary

11. Question about your next assignment

12. Idea to improve how you do your job

6. How many times during the past year have you used each of the following communication programs to seek informa-tion or to resolve a problem? Give the number of times in the space provided. If you have not used any of these systems, skip to Question 8.

A. Telephone "Action-Line" _____

B. Wing inspector general _____

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C. Question for newspaper "Hot-Line"

D. Military suggestion program _____

E. Special committees such as advisory councils _____

7. Please rate these systems you have used in the past year. A score of _five_ shows you are pleased with the results of using the system. A score of _one_ shows you are not pleased.

		Pleased				Not Pleased
A.	Telephone "Action-Line"	5	4	3	2	1
B.	Wing inspector general	5	4	3	2	1
C.	Letters to newspaper	5	4	3	2	1
D.	Military suggestions	5	4	3	2	1
E.	Advisory councils	5	4	3	2	1

The following questions ask for your opinion in terms of a horizontal scale. If you _agree strongly_ with the statement, select a number at the _left_ of the scale.

8. An effective employee communication program has little if any effect on worker morale.

        5   4   3   2   1
    Agree   Disagree

9. Good worker morale improves the quality of work produced.

        5   4   3   2   1
    Agree   Disagree

10. Managers can make better decisions if employees can communicate freely throughout the organization.

        5   4   3   2   1
    Agree   Disagree

11. High levels of worker satisfaction have little to do with overall effectiveness of the organization.

        5   4   3   2   1
    Agree   Disagree

12. As communication within the organization improves, the work effectiveness of the organization will improve.

     5   4   3   2   1
     Agree   Disagree

13. Effective communication within the organization can cause a "hot" problem to become even "hotter."

     5   4   3   2   1
     Agree   Disagree

Please select the one best response to the following statement:

14. If I were asked to justify the cost of an employee communication program such as a newspaper, I would say the following is the reason:

    A. It will improve the morale of workers.

    B. It permits managers to make better decisions.

    C. It reduces employee absenteeism.

    D. It improves employee job satisfaction.

    E. It reduces the number of employees who quit their jobs.

15. What is your current grade? _____

16. What is your age? _____

17. Describe your current Air Force job. _____

18. How many years service do you have? _____

Thank you for your participation. Your command will receive the results of this study which we hope will aid us to better understand the costs of employee communication programs in the Air Force.